

Appl. No. 10/758,375
Atty. Docket No. 9161Q
Amdt. dated August 22, 2006
Reply to Office Action of August 2, 2006
Customer No. 27752

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AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph beginning at page 3, lines 23 - 24, with the following amended paragraph:

Figure 3 is a schematic top view of a strike-through plate which may be used to measure Liquid Strike-through of a substrate.

Please replace the paragraph beginning at page 14, line 29 and continuing to page 15, line 2, with the following amended paragraph:

Layered clay minerals may be either naturally occurring or synthetic. An example of one non-limiting embodiment of the coating composition uses natural or synthetic hectorites, montmorillonites and bentonites. Another embodiment uses the hectorites clays commercially available, and typical sources of commercial hectorites are the LAPONITEs™ Laponite® from Southern Clay Products, Inc., U.S.A; Veegum Pro and Veegum F from R. T. Vanderbilt, U.S.A.; and the Barasym, Macaloids and Propaloids from Baroid Division, National Read Comp., U.S.A.

Please replace the paragraph beginning at page 15, lines 3-11, with the following amended paragraph:

In one preferred embodiment of the present invention the nanoparticles comprise a synthetic hectorite which can be a lithium magnesium silicate. One such suitable lithium magnesium silicate is LAPONITE Laponite®, which has the formula:



wherein $w = 3$ to 6 , $x = 0$ to 3 , $y = 0$ to 4 , $z = 12 - 2w - x$, and the overall negative lattice charge is balanced by counter-ions; and wherein the counter-ions are selected from the group consisting of selected Na^+ , K^+ , NH_4^+ , Cs^+ , Li^+ , Mg^{++} , Ca^{++} , Ba^{++} , $N(CH_3)_4^+$ and mixtures thereof. (If the LAPONITE Laponite® is "modified" with a cationic organic

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compound, then the "counter-ion" could be viewed as being any cationic organic group (R).)

Please replace the paragraph beginning on page 15, lines 12-14, with the following amended paragraph:

Other suitable synthetic hectorites include, but are not limited to isomorphous substitutions of ~~LAPONITE~~ Laponite®, such as, ~~LAPONITE~~ Laponite B™, ~~LAPONITE~~ Laponite S™, ~~LAPONITE~~ Laponite XLS™, ~~LAPONITE~~ Laponite RD™, ~~LAPONITE~~ Laponite XLG™, and ~~LAPONITE~~ Laponite RDS™.

Please replace the paragraph beginning on page 19, lines 1-12, with the following amended paragraph:

Hydrophilicity boosting compositions, according to the present invention, are prepared as follows:

Component	% Wt of Component												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Nanoparticle ¹	0.1	0.05	0.05					0.1	1				
Nanoparticle ²				0.1	0.05	0.05	0.1						
Nanoparticle ³										1	1	4	
Nanoparticle ⁴													1
Surfactant ⁵	0.075	0.075		0.075	0.075						0.075	0.075	
Surfactant ⁶			0.025			0.025							
Water	--quantity sufficient to 100%--												

1. ~~LAPONITE~~ Laponite B™ is sodium magnesium lithium fluorosilicate from Southern Clay Products, Inc.
2. ~~LAPONITE~~ Laponite RD™ is sodium magnesium lithium silicate from Southern Clay Products, Inc.
3. Disperal 14N4-25 is a boehmite alumina nanoparticle available from North American Sasol, Inc
4. ZSM5 is a nanosized zeolite with a particle size from 70 to about 400 nm.
5. Neodol 91-6
6. Silwet L-77

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Please replace Table 2 on page 21 with the following amended Table:

Table 2. ~~Strike-through~~ Through Times

Sample	Strike-through Time (seconds)		
	1st Gush	2 nd Gush	5th Gush
0.2% Laponite RD™ (Southern Clay Products)	2.5	2.8	3.0
0.1% Disperal P2™ (Condea)	2.4	2.6	2.1